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HIV + persons with cirrhosis receive inadequate screening for esophageal varices

A prospective application of the Baveno VI criteria

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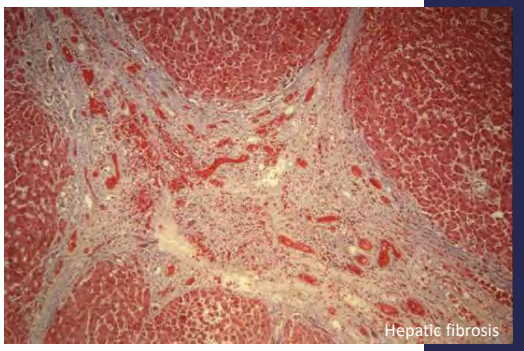
Hepatic fibrosis

BACKGROUND AND OBJECTIVES

HIV positive (HIV+) people are at increased risk of developing cirrhosis and its complications, including variceal hemorrhage. The Baveno VI consensus provides guidance as to which patients with cirrhosis should be screened for esophageal varices, and which can safely forego esophagogastroduodenoscopy (EGD), based on transient elastography (TE) and platelet values. We aimed to determine whether Baveno VI consensus guidelines are appropriately applied in HIV+ as compared to HIV negative (HIV-) individuals with liver disease.

Characteristics	HIV +, N (%)	HIV –, N (%)
Age (mean, years)	49	51
Male gender	545 (75.2)	475 (60.5)
BMI (mean)	26.6	25.9
HCV infection	170 (23.4)	298 (38.0)
HBV infection	11 (1.5)	185 (23.5)
NAFLD	254 (35.0)	283 (36.0)
LSM, kPa (mean)	8.1	12.8
Plt (mean)	199	191

TABLE 1 - Demographic characteristics

METHODS

A prospective cohort study was conducted since 2015, which included HIV+ and HIV- persons who underwent TE as part of a routine screening program for liver disease. Liver cirrhosis was defined as TE measurement >13kPa. Baveno VI guidelines (TE measurement <20kPa and platelets >150,000) were applied to identify those at very low risk of having varices, and who could avoid screening with EGD. Multivariable logistic regression analysis was used to investigate independent cofactors associated with deviation from the Baveno VI guidelines. Diagnostic accuracy of screening according to Baveno VI guidelines as compared to universal EGD was computed.

RESULTS

725 HIV+ and 785 HIV- patients were included (Table 1). Prevalence of cirrhosis in the whole cohort was 19%. Overall, 79% HIV+ and 74% HIV- patients met the Baveno VI criteria for not requiring screening EGD. In the remaining cases who required screening, EGD was performed in only 23% of HIV+ as compared to 87% of HIV- patients ($p<0.001$) (Table 2). Incidence of variceal bleeding was higher in HIV+ than HIV- patients (5.8% vs 1.9%, $p<0.05$). In HIV+ patients, the Baveno VI guidelines had a sensitivity 0.82, specificity 0.62, positive predictive value 0.26, negative predictive value 0.95 for the diagnosis of esophageal varices as compared to universal EGD, which were similar to HIV- patients (Table 3). In multivariable analysis, after adjustment for age, gender, BMI and anti-HCV positivity, being HIV+ was the strongest factor associated with failure to screen when indicated by Baveno VI guidelines (aOR=10.0, 95% CI 7.5-13.5; $p<0.0001$).

	HIV + (n=725)		HIV – (n=785)	
	EGD performed	EGD not performed	EGD performed	EGD not performed
Baveno VI criteria met	44	527	85	494
Baveno VI criteria not met	35	119	180	26

TABLE 2 - Application of Baveno VI criteria by HIV status

Sensitivity	0.82
Specificity	0.62
Positive predictive value	0.26
Negative predictive value	0.95

TABLE 3 - Performance characteristics of Baveno VI criteria in HIV+

CONCLUSIONS

Despite the Baveno VI guidelines performing well in HIV+ patients, they are significantly less likely to receive standard of care screening for esophageal varices than HIV- patients, placing them at higher risk of fatal complications from hemorrhage.